No. 16-1061
ORAL ARGUMENT NOT YET SCHEDULED

United States Court of Appeals for the D.C. Circuit

SUSQUEHANNA INTERNATIONAL GROUP, LLP, KCG HOLDINGS, INC., BATS GLOBAL MARKETS, INC., MIAMI INTERNATIONAL SECURITIES EXCHANGE, LLC, AND BOX OPTIONS EXCHANGE LLC

Petitioners,

v.

SECURITIES AND EXCHANGE COMMISSION,

Respondents,

OPTIONS CLEARING CORPORATION,

Intervenor.

PRO SE BRIEF OF ROBERT JENNINGS AND ROBERT BATTALIO AS *AMICI CURIAE* IN SUPPORT OF PETITIONERS

ON PETITION FOR REVIEW OF A FINAL ORDER
OF THE SECURITIES AND EXCHANGE COMMISSION

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CERTIFICATE OF PARTIES, RULINGS UNDER REVIEW, AND RELATED CASES

Robert Battalio and Robert Jennings certify the following:

(A) Parties and *Amici Curiae*.

Petitioners:

Susquehanna International Group, LLP
KCG Holdings, Inc.
BATS Global Markets, Inc.
Miami International Securities Exchange, LLC
BOX Options Exchange, Inc.

Respondent:

Securities and Exchange Commission of the United States

Intervenor:

Options Clearing Corporation

Amicus Curiae:
Robert Jennings
Robert Batallio

(B) Ruling Under Review

Securities and Exchange Commission, Order Setting Aside Action by Delegated Authority, Approving Proposed Rule Change Concerning The Options Clearing Corporation's Capital Plan and Denying Motions, Exchange Act Release No. 34-77112 (February 11, 2016), 81 Fed. Reg. 8294 (February 18, 2016).

(C) Related Cases

There are no related cases.

TABLE OF CONTENTS

TABLE OF AUTHORITIES

STATEMENT OF IDENTITY, INTEREST IN THE CASE, AND SOURCE OF AUTHORITY TO FILE

Robert Jennings is a Professor of Finance (Emeritus) at the Kelley School of Business, Indiana University. He has assisted Susquehanna in the past as a consultant. He has no current consulting arrangement with Susquehanna.

Robert Battalio is Professor of Finance and Presidential Faculty Fellow at the Mendoza College of Business Notre Dame University. He has assisted Susquehanna in the past as a consultant. He has no current consulting arrangement with Susquehanna.

Professors Jennings and Battalio are academics interested in factors that impact the market including market competition, quote spreads and order flow.

Professors Jennings and Battalio are filing this brief pursuant to a motion for leave to file.

STATEMENT REGARDING RULE 29(C)(5)

Pursuant to Rule 29(c)(5) of the Federal Rules of Appellate Procedure, *amici curiae* certify that:

(A) No party's counsel authored the brief in whole or in part;

(B) No party or party's counsel contributed money that was intended to fund preparing or submitting the brief; and

(C) No person other than the amici curiae contributed money that was intended to fund preparing or submitting the brief.

The distinction between Stockholder Exchanges and non-Stockholder Exchanges in the Options Clearing Corporation's Capital Plan has the potential to negatively affect the competitive landscape of the market for equity option trade executions. We believe that the Shareholder Exchanges are clearly advantaged by the establishment of the Options Clearing Corporation (OCC) dividend to the detriment of the non-Stockholder Exchanges. We further believe that the Shareholder Exchanges are unfairly advantaged because the Capital Plan was larger than needed and pays a greater-than-required rate of return. In the long run, the comparative advantage bestowed on the Shareholder Exchanges by the Capital Plan allows them to consolidate market share. The associated anti-competitive effects of consolidated market share will harm the investing public.

I. The rate of return on the capital provided the OCC by Stockholder Exchanges is excessive and the amount of capital raised was greater than necessary.

A. Rate of return on investment – Is it "fair"?

The Susquehanna Investment Group (SIG) estimates that the dividend rate of return is 17-30% over the next eight years. The OCC disputes this[1] but does not dispute the 2015 rate of 15.69%. Is that fair? As the OCC notes, we must consider the Stockholder Exchanges' weighted average costs of capital to answer that question.

We can compute the Shareholder Exchanges' required return on equity capital using the traditional Capital Asset Pricing Model (CAPM). The CAPM posits that the required return is the riskfree rate plus a risk premium that is determined by the market risk premium (the extra return required on a well-diversified portfolio over and above the riskfree rate) and the security's beta (the amount of risk the security adds to a well-diversified portfolio).

Required rate of return = riskfree rate + beta*market risk premium

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[1] The OCC makes three arguments to discredit SIG's analysis. First, they argue that SIG assumes too high a growth rate of expenses: 7.9% annual rate compared to OCC's 2.3% assumption. The past 10-year average annual growth rate in expenses is 6.23%, much closer to SIG's assumption than to the OCC's. Second, they argue that SIG should have taken the present value of future dividend payments when computing the rate of return. That is incorrect; the idea is to compute a rate of return and then compare that to a "fair" rate of return. Finally, they argue that SIG incorrectly includes the growth in Shareholder Equity into the rate of return to the Shareholders. This also seems to be a specious argument. The Shareholder Exchanges own the Shareholder Equity of the OCC.

Suppose we use a riskfree rate of 1.6% (the 10-year US Treasury rate) and a market risk premium of 6%. From Yahoo! Finance, we find that Nasdaq's beta is .66, CBOE's beta is .33, and ICE's beta is .67.[2] Doing the calculation suggested above, the required returns on equity for all Stockholder Exchanges are less than or equal to 5.62%. So the 15.7% rate of return on the initial year of the Capital Plan is nearly three times the required return on equity. To examine the weighted average cost of capital (WACC) one also must consider the after-tax cost of debt. NASDAQ and ICE have capital structures that are about 1/3 debt, so even if their cost of debt is twice the US Treasury rate, the WACC is very low – about 4.5%. Certainly, 15.7% seems like a very favorable rate of return.

B. Amount of capital raised in the Capital Plan – Was it needed?

In 2015, the OCC accounted for a $142.7mm clearing fee refund (as a liability on the balance sheet) with clearing fee revenue of $240.1mm. That refund represents 59.4% of 2015 clearing fee revenue – by far the largest percentage in the past 20 years. Part of that was a "normal" refund and part was a "special" refund.

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[2] The Shareholder Exchanges include the Chicago Board Options Exchange (CBOE), units of the New York Stock Exchange (NYSE) as part of the Intercontinental Exchange (ICE), the Philadelphia Exchange owned by Nasdaq, and the International Securities Exchange (ISE) owned by the German firm Eurex. Thus, the CBOE is the purest play option exchange. Yahoo! Finance does not provide a beta for Eurex.

According to the OCC's 2015 Annual Report the normal refund amount was $40mm (17% of revenue). Thus, the refund was $102.7mm larger than normal. Suppose that the special refund had been retained by the OCC to reduce the need for additional capital. After a 30% effective tax rate, that would have been about $72mm less in capital needed from the Capital Plan: nearly one-half of the $150mm capital raised by the Capital Plan.

Suppose that the clearing members were given the option to take only the normal refund in 2015 ($40mm) and that allowed the OCC to reduce the amount of capital raised by one-half. Furthermore, suppose that meant that the OCC paid 75% of future excess revenues to refunds and 25% to dividends. If we assume that means a 50% increase in Amount Refunded to Clearing Firms in SIG's Table 1 (page 11 of their response reproduced below in the Appendix) that translates into a 12-13% compound annual rate of return through the year 2022 on the foregone $102.7mm in rebates last year. This rate of return is less than the dividend rate of 15.69% and almost surely great enough to convince the clearing members to accept the lower refund in 2015.

C. The excess (both in size and in rate of return) dividend provides the Stockholder Exchange's a competitive advantage in the cost of doing business. This reduced cost of doing business allows the Stockholder Exchanges to charge lower fees to those routing orders to their exchanges and allows market makers quoting on Stockholder Exchanges to quote narrower bid-ask spreads relative to non-Stockholder Exchanges.

1. Exchange fees are a meaningful part of the cost of trading.

As of June 20, 2016, Interactive Brokers posted the following fees and commission when using its smart order router to facilitate an option trade for 1,370 contracts or less in an option trading above $0.05 for a public customer.[3]

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[3] See https://gdcdyn.interactivebrokers.com/en/index.php?f=commission&p=options1. This example is used strictly for illustrative purposes. Not all exchanges charge customers fees and not all brokers pass fees/rebates along to customers. The example is intended to demonstrate that exchange fees influence some order flow decisions.

Commission	$0.70 per contract (minimum of $1.00 per order)
Exchange Fees	Dependent on exchange. For example… Bats: Penny pilot: $0.49 per contract to remove liquidity. Bats: Penny pilot: - $0.30 per contract to provide liquidity.
Option Regulatory Fee	$0.0404 per contract
FINRA Trading Activity Fee	$0.002 x quantity sold (paid by seller)
Transaction Fees	$0.0000218 x value of aggregate sales (paid by seller)
OCC Clearing Fees	$0.041 per contract

In this case, the exchange fee is second largest component of the cost of trading for a retail customer. To the extent that the super-competitive dividend allows Stockholder Exchanges to reduce the fee relative to the non-Stockholder Exchanges, they will have an advantage in attracting order flow. To the extent that the dividend exceeds what it would have been without the special clearing fee refund in 2015 and a rate of return that exceeds the Shareholder Exchanges' costs of capital, the cost reduction enjoyed by the Shareholder Exchanges is excessive.

2. Effect on spreads – competitive advantage to Shareholder-Exchanges is potentially significant.

The academic literature regarding market makers' setting of bid-ask spreads is extensive. In general, the literature posits that the bid-ask spread contains two components: 1.) the part of the spread designed to compensate market makers for their costs of doing business; and 2.) the part of the spread designed to compensate market makers for trading with individuals who are better informed than the market maker. The second component is referred to as adverse selection. The theoretical basics are covered in papers such as Copeland and Galai (1983), Glosten and Milgrom (1985) and Glosten (1987).

Academic empirical work aimed at estimating how much of the spread is due to each component consistently finds that the costs-of-doing-business component is greater than the adverse selection component. Glosten and Harris (1988), George, Kaul and Nimalendran (1991), Huang and Stoll (1997), and Madhavan, Richardson and Rooman (1997) find that the cost-of-doing-business component is from 60% to 90% of the spread.

Thus, any advantage of order processing costs between Stockholder and non-Stockholder Exchanges is important. The OCC's response estimated that the dividend paid would translate in $0.0029 to $0.0067 per contract traded on the Shareholder-Exchanges when spread across products proportionally to the products' volumes. Considering that the bid-ask spread is a handful of pennies for

the more actively traded options, this represents a real advantage. Furthermore, if the Shareholder-Exchanges choose to allocate the benefits of the dividend unevenly across traded products, the advantage would be much greater. Suppose one takes the 7% fee reduction at the low end of the Petitioners' claim as possible under some sets of business decisions that the Stockholder Exchanges might make. In this case, the cost-of-business advantage could easily exceed from one to three pennies. Those differences clearly could result in spreads that market makers on non-Stockholder Exchange competitors would find difficult to match. Again, this would drive market makers toward making markets only on Stockholder Exchanges, potentially harming the investing public in the long run.

D. Order flow is sensitive to costs

Finally, there is empirical evidence that order flow destination is sensitive to the fees charged by exchanges. Cardella, Hao, and Kalcheva (2015) study liquidity (make-take) fees in the equity market and find that a one cent decrease in the net fee (fee to take liquidity minus rebate to post liquidity in the traditional make-take market) significantly increases trading volume on the exchange reducing the net fee. Likewise, Battalio, Shkilko, and Van Ness (2015) found a 28% decrease in retail option market share for the PHLX when it migrated from a straight payment for order flow model to a maker-taker model.

E. Summary

When Stockholder Exchanges secure otherwise unobtainable market shares due to their cost advantage bestowed via the Capital Plan via its larger-than-necessary size and excessive rate of return, they can use that market power in the long run to harm non-Stockholder Exchanges and the investing public.

II. The OCC's claim of reducing the clearing fees by 19% is overstated.

The OCC touts the reduction in clearing fee as a benefit to the investing public offsetting any potential competitive harm caused by the Capital Plan. They overstate that benefit. The base stated clearing fee went from \$.05/contract to \$.041/contract recently. That is represented by the OCC as a 19% reduction (.041/.05 – 1 = - .18) in clearing fees. The OCC argues that this will benefit the investing public. We believe that the reduction and thereby the benefit to the investing public is greatly overstated.

In the new regime, \$1 in gross fees becomes \$0.82 in gross fees; an 18% decrease. However, "excess" revenue is now split evenly between the clearing fee payers (in the form of refunds) and the Stockholder Exchanges (in the form of dividends). Assuming no other changes, that means the refund rate is one-half of what it has been in the past. The 10-year average refund is 26% of fee revenue for the year. That is, 26% of clearing fees paid in a given year, on average, have been

refunded to clearing members. Because, going forward, the "excess" revenue will be split between dividends and refunds, assume that the refund rate falls to 13% of clearing fees paid.

In the old regime, that is \$1 gross fee – 26% refund = \$0.74 net fee.

In the new regime, that is \$0.82 gross fee – 13% refund = \$0.7134 net fee.

While that is a 3.6% reduction in net fee, it is substantially less than the 19% touted by the OCC. Furthermore, it is the net fee that determines the cost of doing business for the clearing members.

This small reduction in net fee is much less likely to provide an offset to help the investing public be compensated for the potentially damaging effect of distinguishing between Stockholder and non-Stockholder Exchanges in the OCC's Capital Plan.[4]

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[4]The base fee was \$0.03/contract in early 2014. Relative to that benchmark, the \$0.041 represents a 36.7% increase.

For all of the foregoing reasons, the petition for review should be granted.

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CONCLUSION

For all of the foregoing reasons, the petition for review should be granted.

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CERTIFICATE OF COMPLIANCE

Pursuant to Fed. R. App. P. 32(a)(7)(C). I hereby certify that this brief complies with the type-volume limitation of Fed. R. App. P. 29(d) and 32(a)(7)(B) because it contains 2289 words, excluding the parts exempted by Fed. R. App. P. 32(a)(7)(B)(iii) and Cir R. 32(a)(1). I further certify that this brief complies with the typeface requirements of Fed. R. App. P. 32(a)(5) and the type style requirements of Fed. R. App. P. 32(a)(6) because the brief was prepared in 14-point Times New Roman font using Microsoft Word.

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Dated: June 27, 2016

APPENDIX

SIG Table 1: Returns on Stockholder Exchanges' Capital Contribution (dollars in millions)

	2015	2016	2017	2018	2019	2020	2021	2022
Expenses	$234.0	$252.6	$272.7	$294.4	$317.9	$343.2	$370.5	$400.0
Baseline Capital Amount	$117.0	$126.3	$136.4	$147.2	$158.9	$171.6	$185.3	$200.0
Business Risk Buffer	$78.0	$84.2	$90.9	$98.2	$106.0	$114.4	$123.5	$133.3
Margin Capital Adj.	$9.3	$10.1	$10.9	$11.7	$12.7	$13.7	$14.8	$15.9
Reinvestment Rate	6.2%	6.7%	7.2%	7.8%	8.4%	9.1%	9.8%	10.6%
Clearing Fee Refund	$34.3	$37.0	$40.0	$43.2	$46.6	$50.4	$54.4	$58.7
Pre-Tax Income	$43.7	$47.1	$50.9	$54.9	$59.3	$64.0	$69.1	$74.6
After-Tax Income	$30.6	$33.0	$35.6	$38.5	$41.5	$44.8	$48.4	$52.2
Funds Available for Dividend	$21.3	$22.9	$24.8	$26.7	$28.9	$31.2	$33.6	$36.3
Dividend Rate	14.2%	15.3%	16.5%	17.8%	19.2%	20.8%	22.4%	24.2%
Total Return	20.4%	21.9%	23.8%	25.6%	27.7%	29.9%	32.3%	34.8%

CERTIFICATE OF SERVICE

I hereby certify that on June 27, 2016 I served two copies of the foregoing document on each of the following by First Class U.S. Mail:

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